

SUPPORT FOR THE AMENDMENTS

Support for the amendment of Claim 28 is found on page 12, lines 27-29, in the specification.

Claim 32 is amended to correct a previous clerical error.

No new matter is believed added to this application by entry of this amendment.

Upon entry of this amendment, Claims 28-30 and 32 to 40 are active.

REMARKS/ARGUMENTS

The claimed invention provides a self-cleaning surface having a good lotus effect which can be applied to a substrate by a dry application method not requiring a carrier, adhesive or solvent, as described in Claim 28 and claims dependent thereon. Articles containing the self-cleaning surface are also provided.

Applicants note that Claim 28 is herein amended to describe the aspect ratio as a quotient of a maximum height of a structure of the elevations divided by a maximum width of the elevations, as described on page 12 of the specification.

The rejection of Claims 28-30 and 32-40 under 35 U.S.C. § 112, first paragraph, is believed obviated by appropriate amendment. Claim 28 is herein amended to use description directly from the specification as referenced by the Office (Official Action dated March 6, 2009, page 2, lines 13-15). Withdrawal of the rejection is therefore respectfully requested.

The rejection of Claims 28-30 and 32-40 under 35 U.S.C. 103(a) over Keller et al. (U.S. 2002/0016433) is respectfully traversed.

Keller describes a composition for producing difficult to wet surfaces containing a powder having a hydrophobic surface and at least one film-forming binder which is also hydrophobic (Claim 1). Paragraphs [0071] to [0073] describe application of the coating composition using solvent, adhesive or thermoplastic polymeric binder. Nowhere does this

reference disclose or suggest a substrate surface having elevations consisting of **particles embedded and anchored in the substrate, without a carrier adhesive or solvent** as according to the claimed invention.

The Office has stated (Official Action dated March 6, 2009, page 3, lines 7-11):

It would have been obvious to one of ordinary skill in the art that there is no substantial difference between the final form of particles in a resin binder that has been coated and particles that have been pushed into a plastic resin. The process of flame spraying to push the particles into the plastic substrate layer is not given much weight as it is unclear how it differs from particles held by a coated binder.

Applicants respectfully submit that the difference between a coated system and the claimed self-cleaning surface would be obvious to one of ordinary skill in the art. In the coated system described by Keller, a binder film covers the surface of the substrate. Such a film may alter the appearance of the surface or change important physical properties associated with the substrate material (hand, flexibility, stability of the surface to environmental influences). The binder is a different chemical material and therefore will have different properties such as thermal expansion, weathering and light stability. Stability of the physical adherence of the binder to the substrate would be a concern and separation of the binder coating from the substrate surface is possible and likely.

In contrast, the surface according to the claimed invention has no binder coating, would show only the physical and chemical properties of the substrate and would not be subject to physical separation of a coating film.

Applicants note that in reversing an obviousness rejection in *Ex parte* SUSUMU TANAKA and YASUO MURAKAMI (Appeal 2007-3845; Decided: March 28, 2008) the Board of Patent Appeals and Interferences stated:

In order to establish a prima facie case of obviousness, the Examiner must show that each and every limitation of the claim is described or suggested by the prior art or would have been obvious based on the knowledge of those of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)

Keller does not disclose or suggest a non-binder applied coating of particles. In [0024] Keller describes the importance of the binder to the reference composition and in paragraphs [0024-0053] specific discussion and direction for the selection of suitable binders which have the necessary hydrophobicity and application properties is provided. In view of such detail, one of ordinary skill in the art would not find motivation to alter the Keller description in the direction of the claimed invention.

The Office has pointed to paragraphs [0076-0078] of Keller (Official Action dated March 6, 2009, page 8, lines 1-7) and stated:

Sections 0078 and 0076 of the reference teach that a whole molded body may consist of the claimed binder and particle composition or only a surface portion. If the whole body is of the binder and particle or the base of the body is the binder and the surface the binder and particles, it is unclear how this structure would differ from a molded body of thermoplastic used for the binder of Keller et al. that had particles inserted in the surface by the instant disclosed process.

Applicants note that the cited paragraphs of Keller describe articles formed by molding processes such as injection molding, extrusion and compression molding [0076] and that from such processes an article having a smooth surface determined by the mold or die would be obtained. Such a surface **would not have the property of aspect ratio** according to the claimed invention.

In view of the above, Applicants respectfully submit that Keller does not describe or suggest the claimed invention and therefore a legal conclusion of obviousness cannot be

supported. Accordingly, withdrawal of the rejection of Claims 28-30 and 32-40 under 35 U.S.C. 103(a) over Keller is respectfully requested.

The rejection of Claims 28-30 and 32-40 under 35 U.S.C. 103(a) over Keller and further in view of Krech (U.S. 6,258,201) is respectfully traversed.

The Office has cited Krech to show an exposed particle surface in a plastic substrate by flame spraying the particles in the surface.

Krech describes a method to produce an abrasive article, a retroreflective article, a pavement marking article or a non-skid article. The average size of the particles is generally **5 to 6550 mm** (Col. 8, line 31). Krech further describes:

“In some embodiments, it may be desired to provide a resin, adhesive or other primer or coating for example ethylene acrylic acid or any other suitable primer, on the polymeric web prior to impingement of the particles.” (Col. 4, lines 26-31)

“It is also possible to have a surface coating on the particles. Surface coatings may be used to increase the adhesion of the polymeric sheet to the particle, alter the abrading characteristics of abrasive particles, improve the processability through the thermal sprayer, or for other desired purposes.” Col. 9, lines 15-20)

The Office has stated:

“It would have been obvious to one of ordinary skill in the art to have used the alternate process of Krech using flame spraying in order to form a particulate sheet for lamination to a substrate instead of coating the substrate with liquid polymers in order to avoid handling solvents at the final installation point because of the teachings of Krech. It is an obvious matter for one of ordinary skill in the art to select different manufacturing processes from a limited set of known processes in order to form a specific article.” (Official Action, dated August 13, 2008, page 3, lines 12-18)

Further in the Official Action dated March 6, 2009, page 4, lines 7-8, the Office adds:

This rejection gives full weight to the flame spraying limitation.

In a Precedential Opinion rendered by the Board of Patent Appeals and Interferences in *Ex parte Whalen II* (Appeal 2007-4423, Application 10/281,142) on July 23, 2008, the Board stated:

“The KSR Court noted that obviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some “apparent reason to combine the known elements in the fashion claimed.””

Applicants continue to submit that Keller requires the presence of a binder to achieve the sought after coating composition for producing a difficult to wet surface. The reference specifically recites:

“We have found that this object is achieved in a coating composition comprising at least one porous powder having a high specific surface area which, additionally, is hydrophobic and at least one hydrophobic binder for the powder particles, the weight ratio of the hydrophobic powder to binder being at least 1:4.” [0015]

The particles described by Krech (Col. 8, lines 28-40) are abrasive, reflective or friction materials of high melting point and hydrophilic nature. The particles described by Keller have a diameter in the range from 0.05 to 50 μm while those according to Krech are 5 to 6550 mm. Krech requires an extruder polymeric sheet which can be softened (Col. 3, lines 3-10), while Keller is directed to all conventional surfaces [0070]. Applicants respectfully submit that the Office has not explained why or how one of ordinary skill in the art would have derived the claimed invention from the two cited references.

Moreover in the Official Action dated March 6, 2009, page 8, lines 16-20, the Office has alleged:

If the substrate of Keller et al. is of a thermoplastic similar to that used as a binder, and the particles are implanted using the process of Krech, it would produce a similar product to that taught by Keller et al.

When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than hindsight gleaned from the invention itself. *Interconnect Planning Corp.* 774 F.2d, 1143, 227 USPQ 551.

Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.* 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984)

Applicants respectfully submit that only in hindsight, in view of the claimed invention, would one of ordinary skill in the art combine the cited references. Keller does not require a restriction on the substrate and is directed to a broad range of substrates. The Office has not provided any reasonable explanation of how or why one of ordinary skill in the art would have combined the cited references to obtain the claimed invention, at the time of the present invention.

In view of the above, Applicants respectfully submit that a conclusion of obviousness cannot be supported and withdrawal of the rejection of Claims 28-30 and 32-40 under 35 U.S.C. 103(a) over Keller in view of Krech is respectfully requested.

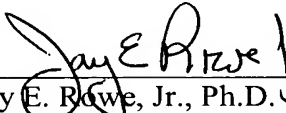
Applicants respectfully request that the provisional rejections of Claims 28-30 and 32-40 on the grounds of nonstatutory obviousness-type double patenting over Claims 11-20 of copending Application No. 10/506,993, over Claims 1-6 of copending Application No. 10/506,238, over Claims 1-12 of copending Application No. 10/506,236, over Claims 21-29 of copending Application No. 10/506,994, over Claims 1-8 of copending Application No. 10/506,604, over Claims 1-2, 5-24 of copending Application no. 10/474,624, and over Claims 19-20 and 22-25 of Application No.10/309,895 (now copending Application No. 11/249,315) and the rejection of Claims 28-30 and 32 on the ground of nonstatutory obviousness-type double patenting over Claims 1-9 of U.S. 6, 811,856 be held in abeyance pending identification of patentable subject matter in the above-identified application.

Application No. 10/519,951
Reply to Office Action of March 6, 2009

Applicants respectfully submit that Claims 28-30 and 32-40 are now in condition for allowance and early notice of such is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Jay E. Rowe, Jr., Ph.D.
Registration No. 58,948

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)